REPORT ON MAPLE PRODUCTS

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The Associate Referee for Authenticity of Maple Sirup, Dr. Arthur S. Wendt, was unable to submit a report for this meeting. However, Dr. Wendt has now become a consultant to the food industry and will continue as Associate Referee for Authenticity of Maple Sirup and will also continue to collaborate with the Committee on Ashing Methods.

The Associate Referee on Maple Flavors and Imitations, Dr. J. C. Underwood, has undertaken a study to determine the causes of variation in values of "blank" analyses made in connection with analyses of maple sirup for the presence of formaldehyde by the AOAC standard method. Twenth-three samples of sirup made from the sap of maple trees which had not been treated with paraformaldehyde pellets were analyzed by the AOAC method and were found to contain amounts of formaldehyde ranging from 0.36 to 1.85 ppm with an average of 0.75 ppm. GLC analyses of sirup distillates used in the standard method indicate the presence of carbonyl compounds which may interfere with blank determinations by the AOAC standard method.

The Associate Referee for Maple Sirup Constants, Mr. Calixte Hébert, has undertaken a study to improve the accuracy and speed the performance of the controlled distillation step recommended in the official AOAC method for the determination of formaldehyde in maple sirup. The present

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This report of the General Referee was presented at the 84th Annual Meeting of the Association of Official Analytical Chemists, Washington, D. C., October 12-15, 1970.

method does not specify the heat source to be used and, as a result, technicians using micro-burners and electric heaters have had difficulty in performing the distillation accurately within the time limits required by the method. The Associate Referee has shown that a marked improvement can be made in the distillation method by insulating the neck of the micro-Kjeldahl flask and the distillation tube with asbestos tape and using a thermostatically controlled concave flask heater as a heat source. Mr. Hébert has also offered to collaborate with the Committee on Ashing Methods in their planned collaborative studies.

The Associate Referee on Microbiological Methods, Mr. John C. Kissinger, has continued work on a modified resazurin test for estimating the bacterial population in maple sap. Dye reduction times of bacterial populations grown in raw maple sap and in simulated sap media were found to be comparable. Therefore the simulated sap could be used as a medium for collaborative testing of this method. Suitable color standards must be selected before a collaborative study of the method can be initiated.

Recommendations

It is recommended that:

(1) Studies to develop a method for applying GLC profiling to confirm the authenticity of maple sirup be continued.

(2) Studies be continued on identification of carbonyl compounds which could interfere with the stand method for determining formaldehyde in maple sirup.

(3) Studies be continued to improve the distillation procedure used in the standard method for determination of formaldehyde in maple sirup.

(4) Studies be continued on methods for estimating the bacterial population in maple sap by a modified resazurin test.